

**REMARKS**

**Rejection of Claims 19-28 Under 35 U.S.C. § 112, First Paragraph**

Claims 19-28 have been rejected under 35 U.S.C. § 112, first paragraph, for purportedly containing subject matter not described in the specification. For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

Support for the limitation “wherein the ratio of the nitrogen source derived from soybean with respect to the total nitrogen source in the medium is at least 86%” may be found in Example 2 of the specification as filed. In Example 2, 0.2% yeast extract and 1.3% roasted soybean flower were used, thereby providing a ratio of the nitrogen source derived from the soybean with respect to the total nitrogen source of 86% ( $.2\% + 1.3\% = 1.5\%$ ; nitrogen source derived from soybean is  $1.3\% / 1.5\% = 86\%$ ).

In light of these remarks, withdrawal of this rejection under 35 U.S.C. § 112, first paragraph, is respectfully requested.

**Rejection of Claims 37-46 Under 35 U.S.C. § 112, First Paragraph**

Claims 37-46 have been rejected under 35 U.S.C. § 112, first paragraph, for purportedly not being described in the specification. For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

Support for a “Mead acid-containing oil,” may be found on page 3, lines 2-29 of the specification (which discloses unsaturated fatty acids and exemplifies Mead acid) and on page 10, lines 9-20, of the specification as filed (which discloses lipids comprising said unsaturated fatty acids). Support for a nutritive dietary supplement comprising Mead acid-

containing oil; an immature infant formula comprising Mead acid-containing oil; and an animal feed comprising a Mead acid-containing oil may be found, at the very least, on page 11, lines 14-18, of the specification as filed.

In light of these remarks, withdrawal of this rejection under 35 U.S.C. § 112, first paragraph, is respectfully requested.

**Rejection of Claims 19-29 Under 35 U.S.C. § 102(b)**

Claims 19-29 have been rejected under 35 U.S.C. § 102(b) for purportedly being anticipated by Shinmen et al (*Appl. Microbiol. Biotechnol.* 31:11-16 (1989)) in view of Shimizu et al (*LIPIDS* 27(6):481-483 (1992)). For at least all of the reasons set forth below, withdrawal of this rejection under 35 U.S.C. § 102(b) is believed to be in order.

Shinmen et al disclose a process for producing an unsaturated fatty acid-containing oil, which contains about 18 to 60% arachidonic acid. The process disclosed by Shinmen et al involves cultivating a fungus in a 2000L fermentor. Shimizu et al disclose a process which is similar, but not identical, to the process disclosed by Shinmen et al. The Shimizu et al process produces an unsaturated fatty acid-containing oil which has 24,25-methylenecholest-5-en-3 $\beta$ -ol compositional ratio of 21% and 24,25-methylenecholest-5-en-3 $\beta$ -ol compositional ratio in a proportion of 0.37 with respect to desmosterol composition ratio. The process disclosed by Shimizu et al involves cultivating in a 100 mL flask.

One of skill in the art knows that fatty acid productivity and other productivities of the product's are very different depending on culturing conditions. For example, it would

be clear to a person having ordinary skill in the art that the productivities in a 100 mL flask and those in a 2000L fermentor would be completely different. Thus, the process used by Shimizu et al (which uses a 100 mL flask for cultivation) would have a different productivity than the process used by Shinmen et al (which uses a 2000L fermentor). Therefore, there is no reasonable basis to believe that the oil disclosed by Shimen et al has the same properties as to oil disclosed by Shimizu et al. In fact, one would anticipate just the opposite - that the properties of the oils produced by each of these processes would be different. Thus, one would anticipate that the process disclosed by Shinmen et al would not produce an unsaturated fatty acid-containing oil which has a ratio of the nitrogen source derived from soybean with respect to the total nitrogen source in the medium of at least 86%. Thus, Shinmen et al and Shimizu et al do not anticipate the present invention.

In light of these remarks, applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 102(b).

**Rejection of Claims 13-14 and 30-36 Under 35 U.S.C. § 103(a)**

Claims 13-14 and 30-36 have been rejected under 35 U.S.C. § 103(a) for purportedly being unpatentable over Shinmen et al in view of both Shimizu et al and Barclay (U.S. Patent No. 5,583,019). For at least all of the reasons set forth below, withdrawal of this rejection is believed to be in order.

As discussed in more detail above, neither Shinmen et al nor Shimizu et al, either alone or taken together, disclose a process which would produce an unsaturated fatty acid-containing oil which has a ratio of the nitrogen source derived from soybean with respect

to the total nitrogen source in the medium of at least 86%. Thus, neither Shinmen et al nor Shimizu et al could possibly disclose or suggest an unsaturated fatty acid-containing oil which has a ratio of the nitrogen source derived from soybean with respect to the total nitrogen source in the medium of at least 86%, nor could either of these references disclose or suggest compositions (such as baby formula or animal feed) which comprise such an oil.

Barclay does not solve the deficiencies of Shinmen et al and Shimizu et al. Barclay does not disclose or suggest an unsaturated fatty acid-containing oil which has a ratio of the nitrogen source derived from soybean with respect to the total nitrogen source in the medium of at least 86%. Thus, even if Barclay were taken together with Shimen et al and Shimizu et al, one would not obtain baby foods or animal foods comprising an unsaturated fatty acid-containing oil which has a ratio of the nitrogen source derived from soybean with respect to the total nitrogen source in the medium of at least 86%. Therefore, even if the references were taken together, one would not arrive at the claimed invention, and thus the claimed invention is not *prima facie* obvious in view of the cited references.

In light of these remarks, applicants respectfully request withdrawal of this rejection under 35 U.S.C. § 103(a).

**CONCLUSION**

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

In the event that there are any questions relating to this application, the Examiner is invited to telephone the undersigned so that prosecution of the subject application may be expedited.

Respectfully submitted,

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